

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

CHUNG-JEON LEE *et al.*

Serial No. : *To be Assigned*

Examiner: *To be Assigned*

Filed: March 12, 2004

Art Unit: *To be Assigned*

For: BUBBLE-JET TYPE INK-JET PRINTHEAD

INFORMATION DISCLOSURE STATEMENT

Mail Stop : Patent Application

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites the following art references. These references were cited in the earlier application, Serial No. 09/798,954 filed on 6 March 2001, on which the present divisional application is being filed. Also, it is respectfully submitted that the information disclosure statement(s) filed in the aforesaid earlier application complies with 37 C.F.R. §1.98(a)(b).

U.S. Patent references

1. U.S. Patent No. 5,880,762 to Ishinaga et al., entitled *INK JET HEAD WITH PRELIMINARY HEATER ELEMENT*, issued on 9 March 1999.
2. U.S. Patent No. 6,273,557 to Milligan et al., entitled *MICROMACHINED INK FEED CHANNELS FOR AN INKJET PRINthead*, issued on 14 August 2001.
3. U.S. Patent Application Publication No.2002/0008741 to Temple et al., entitled *DROPLET DEPOSITION APPARATUS*, published on 24 January 2002.
4. U.S. Patent Application Publication No. 2002/0021327 to Ingham et al., entitled *DROPLET EJECTION APPARATUS*, published on 21 February 2002.

Foreign Patent references

1. European Patent Application Publication No. 0 317 171 to Leban et al., *INTEGRAL THIN FILM INJECTION SYSTEM FOR THERMAL INK JET HEADS AND METHODS OF OPERATION*, published on 24 May 1989.
2. Japanese Patent No. 59-207262 to Camis et al., entitled *RESISTOR STRUCTURES FOR THERMAL INK JET PRINTERS*, published on 7 November 1984.
3. Japanese Patent No. 11-020161 to Segawa et al., entitled *PRINTER HEAD AND MANUFACTURE THEREOF*, published on 26 January 1999.
4. Japanese Patent No. 10-128977 to Weber, entitled *METHOD AND APPARATUS FOR INK CHAMBER EVACUATION*, published on 29 April 1998.
5. Japanese Patent No. 09-48121 to Fujiyama et al., entitled *PRINTING HEAD*, published on 18 February 1997.

6. Japanese Patent No.59-124865 to Yokoi et al., entitled *LIQUID JETTING RECORDER*, published on 19 July 1984.
7. Japanese Patent No. 08-48034 to Uematsu, entitled *INK JET PRINTING HEAD AND ITS DRIVING METHOD*, published on 20 February 1996.

Discussion

Ishinaga et al. '762 pertains to an improved inkjet printhead design that results in improved image quality high tone gradient and improved ejection efficiency.

Milligan et al., '557 discloses an inkjet print cartridge comprising a printhead that is formed using a sequence of etch process steps.

Temple et al., '741 pertains to an improved apparatus and method for making an ink jet printhead.

Ingham et al., '327 pertains to a novel inkjet printhead that attempts to prevent a nozzle plate from delaminating from an inkjet printhead.

Leban et al., EP '171 pertains to an inkjet printhead structure that results in improved ejection operational frequency decreased cavitation wear, reduction of back pressure and better control over ink drop size.

Camis JP '262 discloses an ink-jet head comprising two resisting elements and nozzle holes existing between the two resisting elements, wherein ink is supplied from both sides of each nozzle hole.

Segawa JP '161 contemplates a printer head providing a container for ink, a head board containing orifices for jetting ink, disposed contiguously to the ink container and counter electrodes

that urge ink to pass through the orifice holes. A circuit for driving the counter electrodes is integrally formed with a head board.

Weber JP '977, which corresponds to U.S. Patent No. 6,113,221, contemplates a print head with the chamber, a member that defines an orifice and a fluid inlet through which fluid flows to the chamber. A heating member disposed to heating fluid within the chamber to enable the chamber to eject a fluid droplet that has a volume equal to the volume of the chamber.

Fujiyama JP '121 contemplates a plurality of heating elements that are arranged on one surface of an insulting substrate, with a pressure container having the heating elements provided on its inner wall surface, holding a definite amount of ink and having an ink emitting nozzle formed as a through-hole at the position opposite to the heating element.


Yokoi '865 describes a highly reliable liquid jetting recorder with durability, availability of outputting, and an excellent-time continuous recording property by arranging a plurality of liquid discharge port to use at least one thereof for a spare.

Uematsu '034 discusses a ink jet printing head that ink is heated by the heating part attached to the interior of an ink storage part while reciprocal scanning is performed to generate an air bubble and an ink droplet is flown from each of the ink-jetting orifices provided in opposed relation to the heating part.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

No fee is incurred by this Statement.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "R. E. Bushnell", is written over a horizontal line.

Robert E. Bushnell

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INFORMATION DISCLOSURE STATEMENT PTO-1449 (PAGE 1 OF 1)	SERIAL NUMBER	DOCKET NO. P57047
	APPLICANT CHUNG-JEON LEE	
	FILING DATE 12 March 2004	GROUP

U.S. PATENT DOCUMENTS						
EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,880,762	3/99	Ishinaga et al.			
	6,273,557	8/01	Milligan et al.			
	2002-0008741	1/02	Temple et al.			
	2002/0021327	2/02	Ingham et al.			

FOREIGN PATENT DOCUMENTS						TRANSLATION	
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO
	EP 0 317 171	5/89	Europe				
	JP 59-207262	11/84	Japan			Abstract	
	JP 09-48121	2/97	Japan			Abstract	
	JP 10-128977	5/98	Japan			Abstract	
	JP 11-20161	1/99	Japan			Abstract	
	JP 08-48034	2/96	Japan			Abstract	
	JP 59-124865	7/84	Japan			Abstract	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)	

EXAMINER:	DATE CONSIDERED:
<small>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>	